

ALL WORK IS TO BE DONE NEATLY ON YOUR OWN LOOSELEAF AND PASSED IN WITH THIS SHEET STAPLED TO THE BACK OF YOUR ASSIGNMENT.

Part One

Balance the following equations AND identify the Reaction type.

1.  $\text{Al(s)} + \text{O}_2\text{(g)} \rightarrow \text{Al}_2\text{O}_3\text{(s)}$
2.  $\text{HCl(aq)} + \text{Ca(OH)}_2\text{(aq)} \rightarrow \text{HOH(l)} + \text{CaCl}_2\text{(aq)}$
3.  $\text{CH}_4\text{(g)} + \text{O}_2\text{(aq)} \rightarrow \text{CO}_2\text{(g)} + \text{H}_2\text{O(g)}$
4.  $\text{Zn(s)} + \text{Pb(CH}_3\text{COO)}_2\text{(aq)} \rightarrow \text{Pb(s)} + \text{Zn(CH}_3\text{COO)}_2\text{(aq)}$
5.  $\text{SO}_3\text{(g)} + \text{H}_2\text{O(l)} \rightarrow \text{H}_2\text{SO}_4\text{(aq)}$
6.  $\text{HgO(s)} \rightarrow \text{Hg(l)} + \text{O}_2\text{(g)}$
7.  $\text{CaCO}_3\text{(s)} \rightarrow \text{CaO(s)} + \text{CO}_2\text{(g)}$
8.  $\text{NaI(aq)} + \text{Pb(NO}_3)_2\text{(aq)} \rightarrow \text{PbI}_2\text{(s)} + \text{NaNO}_3\text{(aq)}$
9.  $\text{Cl}_2\text{(aq)} + \text{NaI(aq)} \rightarrow \text{I}_2\text{(aq)} + \text{NaCl(aq)}$
10.  $\text{Al}_2(\text{SO}_4)_3\text{(aq)} + \text{Ca(OH)}_2\text{(aq)} \rightarrow \text{Al(OH)}_3\text{(s)} + \text{CaSO}_4\text{(s)}$
11.  $\text{Al}_2(\text{SO}_4)_3\text{(aq)} + \text{Ca(HCO}_3)_2\text{(aq)} \rightarrow \text{Al(OH)}_3\text{(s)} + \text{CaSO}_4\text{(s)} + \text{CO}_2\text{(g)}$

Part Two

Predict the formulas and states for the products of the following reactions. Give the reaction type and balance the resulting equation.

12.  $\text{C}_8\text{H}_{18}\text{(l)} + \text{O}_2\text{(g)} \rightarrow$
13.  $\text{H}_2\text{O(l)} \rightarrow$
14.  $\text{H}_2\text{SO}_4\text{(aq)} + \text{Al(OH)}_3\text{(s)} \rightarrow$
15.  $\text{Cl}_2\text{(g)} + \text{KBr(aq)} \rightarrow$

Part Three

From the names of the given reactants, do the following:

- A) Give the reaction type
- B) Predict the products and write a balanced equation
- C) Complete the word equation

BE SURE TO INCLUDE THE STATE OF MATTER SUBSCRIPTS FOR ALL REACTANTS AND PRODUCTS. *ASSUME aqueous solutions for compounds in single and double replacement reactions. (This means you must consult a solubility table)*

16. Ammonia  $\rightarrow$
17. zinc + hydrochloric acid  $\rightarrow$
18. aluminum + oxygen  $\rightarrow$
19. acetic acid + barium hydroxide  $\rightarrow$
20. iron(III) nitrate + sodium hydroxide  $\rightarrow$
21. mercury (II) oxide  $\rightarrow$
22. butane  $\text{C}_4\text{H}_{10}\text{(g)}$  + oxygen  $\rightarrow$
23. strontium hydroxide + sodium sulfate  $\rightarrow$
24. hydrogen + oxygen  $\rightarrow$
25. copper + silver nitrate  $\rightarrow$